SEQUENCE LISTING

<110> Herr, John C.
Norton, Elizabeth J.
Deikman, Alan B.

<120> Recombinant Antibody Directed Against Human Sperm Antigen

<130> 00415-02

<140>
<141>

<150> 60/145,512
<151> 1999-07-23

<160> 18

<170> PatentIn Ver. 2.1

<210> 1
<211> 116
<212> PRT
<213> Mus musculus

<400> 1

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| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Gly | Pro | Ala | Ser | Ile | Ser | Cys | Arg | Ser | Ser | Gln | Ser | Leu | Val | His | Ser |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Asn | Arg | Asp | Thr | Tyr | Leu | His | Trp | Phe | Leu | Gln | Lys | Pro | Gly | Gln | Ser |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Pro | Glu | Leu | Leu | Ile | Tyr | Arg | Val | Ser | Asn | Arg | Phe | Ser | Gly | Val | Pro |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Asp | Arg | Phe | Ser | Gly | Ser | Gly | Ser | Gly | Thr | Asp | Phe | Thr | Leu | Lys | Ile |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |

Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Phe Cys Ser Gln Ser
85 90 95

Thr His Val Pro Phe Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
100 105 110

Arg Ala Ala Ala
115

<210> 2
<211> 348
<212> DNA
<213> Mus musculus

<400> 2
gacatcgagc tcactcagtc tccattctcc ctgcctgtca gtcttggagg tccagcctcc 60

atctcttgca gatctagtca gagtcttgta cacagtaata gagacactta tttacattgg 120

ttcctgcaga agccaggcca gtctccagag ctcctgatct acagagtttc caaccgattt 180

tctggggtcc cagacaggtt cagtggcagt ggatcaggga cagatttcac actcaagatc 240

agcagagtgg aggctgagga tctgggagtt tatttctgtt ctcaaagtac acatgttcca 300

ttcacgttcg gctcggggac caagctggaa atcaaacggg cggccgca 348

<210> 3
<211> 118
<212> PRT
<213> Mus musculus

<400> 3
Gln Val Lys Leu Gln Gln Pro Gly Ser Glu Pro Val Arg Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Arg Ala Ser Gly Tyr Lys Phe Thr Thr Tyr
20 25 30

Trp Met His Trp Val Arg Gln Arg Pro Gly Gln Gly Pro Glu Trp Ile
35 40 45

Gly Asp Ile Tyr Pro Gly Ser Gly Asp Ser Asn Tyr Asp Val Lys Phe
50 55 60

Lys Asn Lys Ala Thr Leu Thr Val Asp Thr Ser Ser Ser Thr Val Tyr
65 70 75 80

Ile Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Gly Asp Tyr Gly Cys Pro Phe Val Tyr Trp Gly Gln Gly Thr
100 105 110

Thr Val Thr Val Ser Ser
115

<210> 4
<211> 354
<212> DNA
<213> Mus musculus

<400> 4
caggtgaaac tgcagcaacc tgggtctgaa ccggtgaggc ctggagcttc agtgaaggtg 60

tcctgcaggg cttctggcta caaattcacc acctactgga tgcactgggt gaggcagagg 120

cctggacaag gccctgagtg gattggagat atttatcctg gtagtggtga ttctaactac 180

gatgtgaagt tcaagaacaa ggccacactg actgtagaca catcctccag cacagtttac 240

atacaactca gcagcctgac atctgaggac tccgcggtct attactgtgc aagaggggac 300

tatggttgcc cttttgttta ctggggccaa ggcaccacgg tcaccgtctc cagt 354

<210> 5
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:peptide linker

<400> 5
Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
1 5 10 15

<210> 6
<211> 100
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:PCR primer

<400> 6
ggcaccacgg tcaccgtctc cagtggcggc ggcggcagcg gtggtggtgg ttctgggggc 60

ggcggcagcg acatcgagct cactcagtct ccattctccc 100

<210> 7
<211> 100
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:PCR primer

<400> 7
gggagaatgg agactgagtg agctcgatgt cgctgccgcc gcccccagaa ccaccaccac 60

cgctgccgcc gccgccactg gagacggtga ccgtggtgcc 100

<210> 8
<211> 264
<212> PRT
<213> Mus musculus

<400> 8
Met Ala Gln Val Lys Leu Gln Gln Pro Gly Ser Glu Pro Val Arg Pro
1 5 10 15

Gly Ala Ser Val Lys Val Ser Cys Arg Ala Ser Gly Tyr Lys Phe Thr
20 25 30

Thr Tyr Trp Met His Trp Val Arg Gln Arg Pro Gly Gln Gly Pro Glu
35 40 45

Trp Ile Gly Asp Ile Tyr Pro Gly Ser Gly Asp Ser Asn Tyr Asp Val
50 55 60

Lys Phe Lys Asn Lys Ala Thr Leu Thr Val Asp Thr Ser Ser Ser Thr
65 70 75 80

Val Tyr Ile Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr
85 90 95

Tyr Cys Ala Arg Gly Asp Tyr Gly Cys Pro Phe Val Tyr Trp Gly Gln
100 105 110

Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
115 120 125

Gly Ser Gly Gly Gly Gly Ser Asp Ile Glu Leu Thr Gln Ser Pro Phe
130 135 140

Ser Leu Pro Val Ser Leu Gly Gly Pro Ala Ser Ile Ser Cys Arg Ser
145 150 155 160

Ser Gln Ser Leu Val His Ser Asn Arg Asp Thr Tyr Leu His Trp Phe
165 170 175

Leu Gln Lys Pro Gly Gln Ser Pro Glu Leu Leu Ile Tyr Arg Val Ser
180 185 190

Asn Arg Phe Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly
195 200 205

Thr Asp Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Leu Gly
210 215 220

Val Tyr Phe Cys Ser Gln Ser Thr His Val Pro Phe Thr Phe Gly Ser
225 230 235 240

Gly Thr Lys Leu Glu Ile Lys Arg Ala Ala Ala Gly Ala Pro Val Pro
245 250 255

Tyr Pro Asp Pro Leu Glu Pro Arg
260

<210> 9
<211> 792
<212> DNA
<213> Mus musculus

<400> 9
atggcccagg tgaaactgca gcaacctggg tctgaaccgg tgaggcctgg agcttcagtg 60

aaggtgtcct gcagggcttc tggctacaaa ttcaccacct actggatgca ctgggtgagg 120

cagaggcctg gacaaggccc tgagtggatt ggagatattt atcctggtag tggtgattct 180

aactacgatg tgaagttcaa gaacaaggcc acactgactg tagacacatc ctccagcaca 240

gtttacatac aactcagcag cctgacatct gaggactccg cggtctatta ctgtgcaaga 300

ggggactatg gttgcccttt tgtttactgg ggccaaggca ccacggtcac cgtctccagt 360

ggcggcggcg gcagcggtgg tggtggttct gggggcggcg gcagcgacat cgagctcact 420

cagtctccat tctccctgcc tgtcagtctt ggaggtccag cctccatctc ttgcagatct 480

agtcagagtc ttgtacacag taatagagac acttatttac attggttcct gcagaagcca 540

ggccagtctc cagagctcct gatctacaga gtttccaacc gattttctgg ggtcccagac 600

aggttcagtg gcagtggatc agggacagat ttcacactca agatcagcag agtggaggct 660

gaggatctgg gagtttattt ctgttctcaa agtacacatg ttccattcac gttcggctcg 720

gggaccaagc tggaaatcaa acgggcggcc gcaggtgcgc cggtgccgta tccggatccg 780

ctggaaccgc gt 792

<210> 10
<211> 792
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic sequence substituting bacterial codons for mouse codons

<400> 10
atggcccagg tgaaactgca gcaacctggg tctgaaccgg tgcgccctgg cgcttcagtg 60

aaggtgtcct gccgcgcttc tggctacaaa ttcaccacct actggatgca ctgggtgcgc 120

cagcgccctg gccaaggccc tgagtggatt ggcgatattt atcctggtag tggtgattct 180

aactacgatg tgaagttcaa gaacaaggcc acactgactg tagacacatc ctccagcaca 240

gtttacatcc aactcagcag cctgacatct gaggactccg cggtctatta ctgtgcaaga 300

ggggactatg gttgcccttt tgtttactgg ggccaaggca ccacggtcac cgtctccagt 360

ggcggcggcg gcagcggtgg tggtggttct gggggcggcg gcagcgacat cgagctcact 420

cagtctccat tctccctgcc tgtcagtctt ggcgatccag cctccatctc ttgccgctct 480

agtcagagtc ttgtacacag taatcgcgac acctatctgc attggttcct gcagaagcca 540

ggccagtctc cagagctcct gatctaccgc gtttccaacc gcttttctgg ggtcccagac 600

cgcttcagtg gcagtggctc agggacagat ttcacactca agatcagcag cgtggaggct 660

gaggatctgg gcgtttattt ctgttctcaa agtacacatg ttccattcac gttcggctcg 720

gggaccaagc tggaaatcaa acgggcggcc gcaggtgcgc cggtgccgta tccggatccg 780

ctggaaccgc gt 792

<210> 11
<211> 251
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic sequence substituting amino acids in the natural mouse protein to "humanize" the protein

<400> 11

Met Ala Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Val Lys Lys Pro
1 5 10 15

Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr
20 25 30

Thr Tyr Trp Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu
35 40 45

Trp Ile Gly Asp Ile Tyr Pro Gly Ser Gly Asp Ser Asn Tyr Asp Val
50 55 60

Lys Phe Lys Asn Arg Val Thr Ile Thr Ala Asp Thr Ser Thr Ser Thr
65 70 75 80

Ala Tyr Met Gln Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr
85 90 95

Tyr Cys Ala Arg Gly Asp Tyr Gly Cys Pro Phe Val Tyr Trp Gly Gln
100 105 110

Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
115 120 125

Gly Ser Gly Gly Gly Gly Ser Asp Ile Val Met Thr Gln Ser Pro Ser
130 135 140

Ser Leu Pro Val Ser Val Gly Asp Pro Ala Ser Ile Ser Cys Arg Ser
145 150 155 160

Ser Gln Ser Leu Val His Ser Asn Arg Asp Thr Tyr Leu His Trp Tyr
165 170 175

Leu Gln Lys Pro Gly Gln Ser Pro Gln Leu Leu Ile Tyr Arg Val Ser
180 185 190

Asn Arg Phe Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly
195 200 205

Thr Asp Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val Gly
210 215 220

Val Tyr Tyr Cys Ser Gln Ser Thr His Val Pro Phe Thr Phe Gly Gln
225 230 235 240

Gly Thr Lys Val Glu Ile Lys Arg Ala Ala Ala
245 250

<210> 12
<211> 753
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic sequence substituting human codons for mouse codons

<400> 12
atggcacaag ttcagttaca acagtctggt gcagaagtta aaaaacctgg tgcttctgtt 60

aaagtttctt gcaaagcttc tggttatacc tttaccacgt attggatgca ttgggttcgt 120

caagctcctg gtcaaggtct ggaatggatt ggtgatattt atcctggttc tggtgattct 180

aattatgatg ttaaatttaa aaatcgtgtt accattaccg ctgatacctc tacctctacc 240

gcttatatgc aattatctag cttacgttct gaagataccg cagtttatta ttgtgcacgt 300

ggtgattatg gttgtccttt tgtttattgg ggtcaaggca ccacggttac cgtttctagc 360

ggtggcggcg gttctggcgg tggcggtagc ggcggtggtg gctctgatat tgttatgacc 420

caatctcctt ctagcttacc tgtttctgtt ggtgatcctg ctagcatttc ttgtcgttct 480

agccaatctt tagttcatag caatcgtgat acctatttac attggtatct gcagaaacct 540

ggtcaaagcc ctcaattact gatttatcgt gttagcaatc gttttagcgg tgttcctgat 600

cgtttttctg gtagcggttc tggtaccgat tttacgttaa aaatttctcg tgttgaagct 660

gaggatgttg gtgtttatta ttgttctcaa agcacccatg ttcctttac gttcggtcaa 720

ggtaccaaag ttgaaattaa acgtgctgca gct 753

<210> 13
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:nucleic acid linker

<400> 13
ggcggcggcg gcagcggtgg tggtggttct gggggcggcg gcagc 45

<210> 14
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:commercially available petide antigen

<400> 14
Gly Ala Pro Val Pro Tyr Pro Asp Pro Leu Glu Pro Arg
1 5 10

<210> 15
<211> 251
<212> PRT
<213> Mus musculus

<400> 15
Met Ala Gln Val Lys Leu Gln Gln Pro Gly Ser Glu Pro Val Arg Pro
1 5 10 15

Gly Ala Ser Val Lys Val Ser Cys Arg Ala Ser Gly Tyr Lys Phe Thr
20 25 30

Thr Tyr Trp Met His Trp Val Arg Gln Arg Pro Gly Gln Gly Pro Glu
35 40 45

Trp Ile Gly Asp Ile Tyr Pro Gly Ser Gly Asp Ser Asn Tyr Asp Val
50 55 60

Lys Phe Lys Asn Lys Ala Thr Leu Thr Val Asp Thr Ser Ser Ser Thr
65 70 75 80

Val Tyr Ile Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr
85 90 95

Tyr Cys Ala Arg Gly Asp Tyr Gly Cys Pro Phe Val Tyr Trp Gly Gln
100 105 110

Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
115 120 125

Gly Ser Gly Gly Gly Gly Ser Asp Ile Glu Leu Thr Gln Ser Pro Phe
130 135 140

Ser Leu Pro Val Ser Leu Gly Gly Pro Ala Ser Ile Ser Cys Arg Ser
145 150 155 160

Ser Gln Ser Leu Val His Ser Asn Arg Asp Thr Tyr Leu His Trp Phe
165 170 175

Leu Gln Lys Pro Gly Gln Ser Pro Glu Leu Leu Ile Tyr Arg Val Ser
180 185 190

Asn Arg Phe Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly
195 200 205

Thr Asp Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Leu Gly
210 215 220

Val Tyr Phe Cys Ser Gln Ser Thr His Val Pro Phe Thr Phe Gly Ser
225 230 235 240

Gly Thr Lys Leu Glu Ile Lys Arg Ala Ala Ala
245 250

<210> 16
<211> 753
<212> DNA
<213> Mus musculus

<400> 16
atggcccagg tgaaactgca gcaacctggg tctgaaccgg tgaggcctgg agcttcagtg 60

aaggtgtcct gcagggcttc tggctacaaa ttcaccacct actggatgca ctgggtgagg 120

cagaggcctg gacaaggccc tgagtggatt ggagatattt atcctggtag tggtgattct 180

aactacgatg tgaagttcaa gaacaaggcc acactgactg tagacacatc ctccagcaca 240

gtttacatac aactcagcag cctgacatct gaggactccg cggtctatta ctgtgcaaga 300

ggggactatg gttgcccttt tgtttactgg ggccaaggca ccacggtcac cgtctccagt 360

ggcggcggcg gcagcggtgg tggtggttct gggggcggcg gcagcgacat cgagctcact 420

cagtctccat tctccctgcc tgtcagtctt ggaggtccag cctccatctc ttgcagatct 480

agtcagagtc ttgtacacag taatagagac acttatttac attggttcct gcagaagcca 540

ggccagtctc cagagctcct gatctacaga gtttccaacc gattttctgg ggtcccagac 600

aggttcagtg gcagtggatc agggacagat ttcacactca agatcagcag agtggaggct 660

gaggatctgg gagtttattt ctgttctcaa agtacacatg ttccattcac gttcggctcg 720

gggaccaagc tggaaatcaa acgggcggcc gca 753

<210> 17
<211> 786
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic sequence substituting bacterial codons for mouse codons

<400> 17
caggtgaaac tgcagcaacc tgggtctgaa ccggtgcgcc ctggcgcttc agtgaaggtg 60

tcctgccgcg cttctggcta caaattcacc acctactgga tgcactgggt gcgccagcgc 120

cctggccaag gccctgagtg gattggcgat atttatcctg gtagtggtga ttctaactac 180

gatgtgaagt tcaagaacaa ggccacactg actgtagaca catcctccag cacagtttac 240

atccaactca gcagcctgac atctgaggac tccgcggtct attactgtgc aagaggggac 300

tatggttgcc cttttgttta ctggggccaa ggcaccacgg tcaccgtctc cagtggcggc 360

ggcggcagcg gtggtggtgg ttctgggggc ggcggcagcg acatcgagct cactcagtct 420

ccattctccc tgcctgtcag tcttggcgat ccagcctcca tctcttgccg ctctagtcag 480

agtcttgtac acagtaatcg cgacacctat ctgcattggt tcctgcagaa gccaggccag 540

tctccagagc tcctgatcta ccgcgtttcc aaccgctttt ctggggtccc agaccgcttc 600

agtggcagtg gctcagggac agatttcaca ctcaagatca gcagcgtgga ggctgaggat 660

ctgggcgttt atttctgttc tcaaagtaca catgttccat tcacgttcgg ctcggggacc 720

aagctggaaa tcaaacgggc ggccgcaggt gcgccggtgc cgtatccgga tccgctggaa 780

ccgcgt 786

<210> 18
<211> 7
<212> PRT
<213> Homo sapiens

<400> 18
Gly Gln Asn Asp Thr Ser Gln
1 5